Response to Comments - ND0089419
SC Pet Food Solutions -- April 2017
Land Application Permit & 208 Plan Amendment

After review of the comments (summary shown as underlined text below) on the draft permit, DHEC staff offer this response to a variety of topics.

SITE SUITABILITY

1. Soil not adequate ("marginal") for given application rate. DHEC's initial review of the site included an area of approximately 310 acres. The draft permit was based on a determination that this entire 310-acre area was suitable with certain restrictions (e.g., hydraulic application rate). The company initially narrowed its focus on an initial application area of 162 areas (within the original 310 acres). After further review of the application area by the company and the application methods, the permit now addresses a total reduced area of 244 acres -- of which the initial area is now 171 acres (formerly 162 acres -- as described at the hearing).

   DHEC's review -- both initially and subsequently -- of the soils (including certain rock features), seasonal high water table & perched water has concluded that a application rate of 0.75 inches/week is an acceptable level given the site-specific conditions.

   As part of this conclusion, DHEC is requiring that the application area to be developed (e.g., tilled) to create a more uniform soil profile in terms of soil conditions. We believe this will enhance the conditions for the effluent to infiltrate and provide for proper crop growth. Some have expressed concern that the site development (e.g., tilling) might worsen conditions (in terms of groundwater pathways), but we believe the opposite.

   Regarding the infiltration assessment, tests performed were on the more restrictive soil conditions (tilled). These tests proved adequate infiltration -- leading to the modest application rate of 0.75 inches/week. Some concern was expressed that the tests were performed during dry weather conditions. However, the actual test process involves saturating the soil and then performing the test. Therefore, the time of the year is not a factor in the test itself.

   Soil assessments were questioned but DHEC believes that the assessment was adequate and representative of the site, including the initial 171-acre application area. Regarding slopes, grading of the site will ensure that slopes do not exceed ten percent.
2. Site development of spray field may make concerns in above worse. Staff believe that development of the site into a more uniform soil condition is important and will allow for better infiltration and crop growth.
3. Perched water makes site unsuitable. The regulatory requirement is to limit application rates based on the seasonable high water table, and not a temporary perched water table. The permit is in compliance with the regulatory requirement. However, perched water is a practical concern, as well. But given the modest application rate, the site development requirements that are a part of the permit, narrative restrictions related to potential for ponding, and the reality that the actual application rate would average 0.4 inches/week, we believe this permit complies with the regulation.

   In general, if conditions occur that don't allow for application, the holding pond is used for wastewater storage. Subsequently if storage is exhausted, the company will need to make operational adjustments in extreme cases.
4. Application rate too high (given rainfall, storage pond and soils). The soil types and the nature of the conditions generally described by commenters as "rock" or "slate", while limited, can support the modest application rate of 0.75 inches/week (compared to the regulatory maximum of 2.0 inches/week). The rock/slate geology is best summarized as highly weathered porous rock residuum (e.g., saprolite) -- that has some infiltration capacity. In fact, given the estimated flow

rate of approximately 252,000 gallons/day that must be managed and the 171 acre irrigation site, this equates to an application rate of approximately 0.4 inches/week. The average rainfall in Saluda County is approximately 46 inches/ year (0.9 inches/week). This combined amount is reasonable to avoid surface water runoff. Regardless, the permit does not allow surface water runoff and the design of the wastewater management system includes a 30-day holding pond. While some have expressed concerns about winter conditions, based on anecdotal wet soil conditions in the area (e.g., their own lawn), staff believe that the 30-day pond, which is much larger than the minimum required pond of 7-days storage, will be protective.

While it is possible to conceive of extensive rainfall conditions that would make the site unusable even when the 30-day pond becomes full, this seems unlikely. Regardless, the permit restricts application during standing water conditions and during conditions that would cause direct effluent runoff. The company would need to change operations or identify alternative options to manage wastewater during such unusual events.

GROUNDWATER PROTECTION

5. Drinking water wells nearby may be contaminated. Given the treatment levels required and the requirement to manage nutrients applied to the site (e.g., crop nutrient needs), this permit would meet the requirements to protect groundwater at the site. With groundwater protected at the site, any off-site migration that may occur [that is not recharged to the nearby creek (e.g., Dry Creek)] would not negatively impact nearby groundwater uses. The terms and conditions in state regulation are designed to protect those uses. While general concerns have been expressed about the quality of nearby wells, there is no technical basis given to substantiate those concerns.

   In part, some concerns were based on the soil profile which contains the porous rock condition (rock) described above at varying levels. First, the site will be developed to create a more uniform soil base for the irrigation area. Second, the saprolite is a permeable material as witnessed in the field and would not exhibit a preferential pathway to wells near or far (e.g., some homeowners a mile way expressed concerns based on the rock formations in the area).

   As an extra check, groundwater monitoring wells are planned for the site with a focus on checking down-gradient flow. This will allow DHEC to evaluate the success of the site in terms of groundwater protection -- in the same way it does on sites across the state.

SURFACE WATER PROTECTION

6. Runoff from site may contaminate surface water (near and far). First, the permit restricts effluent runoff. Second, the wastewater will have been treated by the wastewater treatment system consistent with the permit conditions. The site has a buffer to any surface waters as a component to mitigate surface water impacts. We do not expect that this permit would cause a surface water problem in the near area (e.g., Dry Creek). It is likely that Dry Creek, for example, will receive groundwater recharge at times from the irrigation site -- even though the application rate is small. Uptake by grass will limit what water has the potential to end up as groundwater recharge. Any groundwater recharge would be positively affected by wastewater treatment, ground filtration and nutrient uptake by the grass crops. Groundwater monitoring wells will inform DHEC of any issues as the system operates that can be addressed if necessary.

   Regarding a downstream DHEC surface water monitoring site that is currently not meeting standards for dissolved oxygen (e.g., S-123), this location is roughly 11 miles downstream and the watershed that feeds that location is approximately 80,000 acres. Another station (S-050), at Highway 378, though not monitored in the last decade, was not meeting the dissolved oxygen standards when last monitored. This station (S-050) has a watershed of approximately 60,000 acres. There is no data to suggest that these sites on the Little Saluda River would be influenced by the operation of this land application system. Factors currently contributing to a violation of standards are a combination of point and non-point sources across a large watershed. It is

speculation as to the impact on the Little Saluda River if there were a NPDES surface water discharge at this location -- much less a land application activity that is highly regulated. There are a variety of unregulated pollution sources in a rural watershed.

While a water quality monitoring site that does not meet standards for bacteria is located within the watershed, this permit is not a surface water discharge. Also, the wastewater will be disinfected prior to land application as a precaution.

Some comments assert that this permit would be subject to the federal Clean Water Act. The only type of land application permit that would have a potential to have a connection to the Clean Water Act would be a domestic sewage sludge permit -- which this is not.

One commenter suggested the permittee be responsible for notifying downstream landowners or water supply entities (in the event of a problem). The permit already has a requirement for the permittee to notify DHEC directly if there is a problem and DHEC would be the entity to notify affected parties, as appropriate.

ODOR

7. Odor concerns. The permit has a condition to address odor from the wastewater treatment and disposal activities. Specific to a known potential concern of the anaerobic lagoon component, this basin is covered to capture and flare methane gas. Concerns about odor from the manufacturing facility are outside the scope of this permit.

PERMIT DETAILS

8. Monitoring frequency of pollutant sampling. DHEC includes monitoring that is reasonable for this system, but has increased the monitoring frequency of pH and fecal coliform bacteria to weekly.
9. More groundwater monitoring wells better (including around basins). Our review of the scope of this project has concluded that the downgradient wells are adequate to assess groundwater quality. The location of the wells is suitable to track groundwater flow. With regard to the treatment basins, these will be lined and therefore, additional monitoring for those systems is not warranted. The permit will require the permittee to install six (6) groundwater wells to assess water quality, to include the baseline conditions prior to operation. Siting of these wells has already been specified during our review process.
10. Self monitoring (concern) as key part of permit compliance. Some were concerned that the company would do the majority of compliance monitoring and not DHEC. This approach is normal across the country. The burden of monitoring should be on the company. DHEC's oversight is a proper check on the performance of the system. In addition to the deterrence afforded by the possibility of DHEC's enforcement, laboratory data must be consistent with the DHEC's certification program. In addition, an operator licensed by the South Carolina Labor, Licensing, and Regulation agency is required and in this case a Grade A-Biological operator is required for permit-required inspections. DHEC will also perform needed inspections and confirm that the data submitted is proper.
11. Influent monitoring needed. The engineering design accounts for the influent wastewater strength and the operational conditions of the land application permit require adequate process knowledge to properly maintain the facility. Therefore, consistent with other similar permits, influent monitoring is not required.
12. Flow monitoring should be appropriate. The permit requires monitoring to document that the hydraulic application is correct. Specifically, flow will be continuously monitored (e.g., meter with feature to track cumulative flow).
13. Bacteria indicator of e-coli verses fecal coliform. DHEC selected fecal coliform because it is suitable as outlined in state regulations and it is also consistent with the effluent guidelines that EPA developed for this type of industry.

14. Soil monitoring before setting limits suggested. While there is no requirement to monitor the soil for certain parameters to set the effluent limits, the permit does address both the hydraulic limits as well as key pollutants (e.g., nitrogen).

MISCELLANEOUS

15. Suitability of coastal bermuda grass. DHEC determined that this grass is suitable. Annual ryegrass will also be used during the winter months.
16. Application completeness. Staff determined the application was complete.
17. Metals in the effluent of concern. While we don't expect metals to be of concern, the permit does require effluent monitoring as a confirmation.
18. Potential impacts on endangered species. Staff reviewed this matter and determined that this permit would not impact such species because none are known to be near the site.
19. Record keeping and information made available to the public. Various permit directives (e.g., implementation of best management practices) are not required to be submitted and vetted through a public process. Any required reports and any DHEC inspections are available via the Freedom of Information office.

OTHER WASTEWATER OPTIONS

20. Better option to use existing sewer system (based on the 208 Plan). Some suggested that a better option for wastewater management would be to pump the flow to the sewer system owned by the Saluda County Water and Sewer Authority. However, this system does not have the capacity for this flow. If it did, it is over five (5) miles away and much more expensive that the land application alternative.

CONCERNS OUTSIDE SCOPE OF PERMIT REGULATION

21. Topics raised that are outside the scope include:
    - Possible traffic and road impacts (County and DOT area of responsibility);
    - Engineering design details (part of a separate permit process -- construction permit);
    - Groundwater quantity concerns (industry wells possible affect on private wells);
    - General concern about wildlife displacement via construction and operation;
    - Proposed land use may change rural character and quality of life (lack of zoning);
    - Use of grass crop for animal feed;
    - Special environmental studies (EIS part of federal actions not applicable); and
    - Cemeteries on site.

PUBLIC INPUT

DHEC staff attended a community meeting on January 31, 2017, and held a public hearing on February 6, 2017, to get feedback from the community about the proposed project and to discuss the draft land application permit. DHEC appreciates all of the feedback and comments received from the community to date. Although no public meeting is being planned at this time, DHEC is providing a summary of all the required permits to those on our mailing list and other interested citizens. We also have developed a webpage that provides updated information related to this proposed project (www.scdhec.gov/SCPetFoodSolutions). Additionally, DHEC's Environmental Application Tracker (www.scdhec.gov/Apps/Environment/EnvironmentalApplicationTracker) is a useful tool to stay informed of the status of permit applications. DHEC welcomes questions and feedback from the community as additional permitting decisions are made. Please contact Shelly Wilson, Permitting and Federal Facilities Liaison, at wilsonmd@dhec.sc.gov or 803-898-3138, or Lawra Boyce, Community Engagement Coordinator, at boycelc@dhec.sc.gov or 803-898-4585 to ask questions or provide input during the permitting process.